pure culture of streptococcus was returned from the heart blood. Three other cases developed the clinical condition of pemphigus neonatorum, or bullous impetigo of the newborn. Those cases got well in ten days or two weeks, and presented symptoms like dermatitis exfoliativa neonatorum, the so-called von Ritter's disease, undoubtedly a streptococcus infection. In those epidemics which Dr. von Ritter had described, the bullae are unusually few and the exfoliation unusually great.

Dr. B. Jablons: I was very glad that Dr. Welty did not agree with Dr. Chipman in attributing these skin lesions entirely to streptococci.

Jungano and Destaso make mention of the fact that many of these skin conditions are not directly due to bacteria associated with them formerly, but to anerobic organisms, and I would like to ask Dr. Chipman if anerobic cultures were made.

I have found that the streptococcus occurs in symbiosis with the Welch bacillus, the B. fragilis, and B. paraputrificus, that are to-day being recognized as having a pathogenic nature. The fact that they do occur in the folds of the skin, where anerobic conditions are possible, would tend to strengthen the assumption that not streptococci alone are the causal agents of these infections, but that pathogenic anerobes are really responsible.

Dr. Chipman, closing discussion: Dr. Jablons has pointed out the possibility of other organisms than streptococci being at the bottom of lesions we have thought to be of streptococcic origin.

In the case shown tonight an ordinary culture was hurriedly made and showed only staphylococci and micrococci catarrhalis. This does not prove that streptococci are not there. I feel positive they are and that, had the culture been made under strict anerobic conditions, they would have been found. It is certainly well known that streptococcic lesions are most easily superinfected with staphylococci and other organisms.

From lesions such as we have discussed tonight, Sabouraud has made cultures in a pipette, finding in the portion free from air pure cultures of streptococci and in the portion receiving air pure cultures of staphylococci.

Dr. Welty's observation that lesions of the retro-auricular fold associated with discharging ears are not due to streptococci but to faulty dressing, seems rather to prove than to disprove the theory of parasitism.

In any event, I hold no special brief for the streptococcus. Probably it causes the diseases we have discussed though admittedly many others are present at times. The chief point of interest, however, is not that they are due to any one organism, but that they are due to some organism—a point which seems to have been entirely overlooked by many, especially in the case of intertrigo and chronic retro-auricular foci.

In the recurrent cases of impetigo which Dr. Alderson mentioned there was undoubtedly some hidden focus of bacterial activity in the skin itself.

FIBROMYOMA UTERI; SKETCH OF TREATMENT, OPERATIVE AND OTHERWISE, WITH SPECIAL REFERENCE TO ROENTGEN RAY THERAPY.*

By HENRY J. KREUTZMANN, M. D., San Francisco.

In the following sketch I shall attempt to describe to you the development of the treatment of fibromyoma uteri, (f. m. u.) basing my remarks mostly on personal observation during my professional career, extending now over 36 years of active work.

I had the good fortune to be Assistant to the Chair of Obstetrics and Gynecology at the University of Erlangen under Prof. Zweifel in 1880-81. This was a glorious period of medical history; under the protection of antiseptic measures, new undreamed of operations were thought out and carried out successfully, especially abdominal operations. Zweifel was a moving spirit; everything newly published was tried, original ideas put to work. The f. m. u. that came to operation were all of large, sometimes enormous size; these women were all suffering severely, life frequently was a burden; the indication for operation was a vital one. The operation of these tumors consisted in ligating the uterine adnexa, putting some ligature around the lower segment of the mass, amputation, extra-peritoneal fixation of the stump in the lower angle of the abdominal incision.

Zweifel had seen and adopted Dr. Koeberle's procedure; Koeberle in Strassburg, and Spencer Wells in London were the most successful ovariotomists of their time; for f. m. u. Koeberle used his "serre-noeud," a sling with screw, using soft wire.

The mortality after this operation was high even in the hands of the best: 20-30%. Recovery after operation was tedious; the sloughing and granulation of the stump required many weeks. The stump retracted; almost always a ventral hernia developed—but the suffering before operation had been so intense that the women felt relieved even with all the shortcomings of this method of operation.

Shortly before that time the clamp had been discarded in ovariotomies; the ovarian pedicle was ligated, cut and dropped into the peritoneal cavity; the abdominal incision closed.

Karl Schroeder in Berlin was the first to adopt this procedure for f. m. u. The tumor was temporarily ligated with an elastic band, the stump was trimmed, sliced like a melon, carefully sutured together, then dropped.

Next to septic infection, it was found that hemorrhages from the stump were frequent causes of death after these operations, and the minds of many were busy devising ways and means to secure absolute hemostasis.

Professor Treutz of Leyden applied to the stump an elastic ligature and dropped it without further attention; Dr. Bardenheuer of Koeln took a kitchen utensil, a "spicknadel"—a needle with which to insert pieces of lard into meat; with this instrument he carried his ligature through adnexa and tumor. Billroth in Wien devised clamps with which to compress the tissue, in order to make a furrow, into which a safe ligature could be placed.

All these things I saw tried at Erlangen. Zweifel himself devised the "continuous ligature in parcels," running from one ligam. infundibuli pelvicum to the other.

The greatest progress in principle, aside from dropping the pedicle into the abdominal cavity, was made by Dr. Baer, in Philadelphia, who taught us to ligate the main arteries of supply of the uterus; Chrobak, Wien, formed a flap anteriorly and posteriorly and covered the stump carefully, calling his procedure "retroperitoneal treatment of the pedicle."

By this time the technic of the operation of

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supravaginal amputation of the uterus had almost reached its climax; annoyance was occasionally caused by the ligatures, silk being mostly used; some ligatures worked their way into the bladder, forming the nucleus of a stone; others produced the very disagreeable "stump exudates."

To overcome this drawback, Bardenheuer removed the whole uterus, leaving no cercival stump at all; August Martin coined the word, that the best treatment of the pedicle was to leave none behind.

Another way to avoid stump exudates was found in abandoning ligatures altogether; compression-instruments were devised with or without cautery, electric and otherwise; in the hands of some experts splendid results were obtained, but by the adoption of fine absorbent ligature material, stump exudates disappeared and results became excellent, especially since very large tumors became rare, and the medium sized tumors offered very good operative chances.

While physicians were centering their energies in improving the technic, especially in reducing mortality of operations on the female genital organs, access to the uterus through the vagina was found to be a safer procedure than the abdominal incision, and so for a while the vaginal route was competing with the abdominal route in operations for f. m. u.; some French operators, Péan, Ségond did wonderful work with the aid of special retractors and clamps; even large tumors were successfully removed per vaginam through what they called "morcellement."

Notwithstanding American operators were the first to remove ovarian tumors through an incision of the Douglas cul-de-sac (Byford, Chicago) their energies were put to perfecting rather the technic of abdominal operations, and today, following their example, vaginal operations for f. m. u. (aside from sub-mucous tumors) are rarely performed.

The ablation of the uterus—abdominal or vaginal, supra-vaginal or total,—means severe mutilation, grave interference with the functions of the genital organs. In some cases a different, conservative treatment offers itself from the very nature of the case, as with the pedunculated submucous or subserous tumor. Here the pedicle is ligated, the tumor, but not the uterus, is removed. The same principle was employed also for intramural tumors. Enucleation, even of large tumors, was recommended and successfully done.

The advantages of this procedure are manifest: the organ remains, the offending tumor alone is removed. My own experience with the enucleation of these intramural fibroids has not been very fortunate; I have done it a few times, removed one or several tumors, only to find more present after a few years. It seems others have had similar unpleasant experiences; therefore, most operators at the present time perform hysterectomy as a routine operation, reserving enucleation for special cases.

The operations heretofore mentioned are to be considered as radical treatment, since the tumors, with the uterus (mostly) are removed. It was natural at the time when the mortality of these radical operations was very high that other less dangerous, palliative operations were advised and carried out.

For some time curettage of the uterine cavity and cauterization were much in favor; in some cases a simple, harmless, useful procedure; but where the uterine cavity is much distorted, sinuous in consequence of the presence of fibroid tumors, curettage proved itself a rather difficult and at the same time dangerous procedure. At present it is employed merely for diagnostic purposes, where the presence of a carcinoma is suspected.

For a short time ligature of the uterine arteries was done from the vagina; but this groping in the dark was soon abandoned.

Hegar advised the removal of the ovaries; I have seen marvelous results from this operation; hemorrhages ceased, tumors diminished in size, or even disappeared entirely. But in the majority of cases the condition remained unchanged. Hegar's operation was a compromise in the face of the high mortality of myoma operations then prevailing; at present it has only historic interest.

For years physicians were intensely concerned with the technic of operations for f. m. u. When its perfection was attained, when vast numbers of women with f. m. u. had been operated, then physicians wished to know what had ultimately become of their patients, what were the final results of their operative activities. A number of searching, interesting reports were made, and important results published.

It was noticed that in a few cases carcinoma had developed in the cervix, when supravaginal amputation had been done; this observation brought many to favor total extirpation in every case. In other instances, after total extirpation—panhysterectomy—cystocele, prolapse of the vagina was observed. So today most operators vary their procedure according to conditions present; if in a nulliparous woman the vaginal portion is perfectly healthy, the simple amputation is done; but if the vaginal portion is torn, infiltrated, eroded, then it is best to remove the cervix too.

Furthermore, it was found that many women suffered severely from molimina climacterii, much more so and for a longer period than when cessation of menses came about in a natural way; these symptoms were especially distressing in younger women. It was therefore advised to leave an ovary or some ovarian tissue behind whenever the ovary was found to be in a normal condition. But from these ovaries left in the abdomen, trouble arose: some became cystic, others developed into neoplasms; another operation, after some time, had to be performed. From observation extending over many years the following practice is now being accepted:

In women near or at the menopause, remove the uterine adnexa always; in younger women, if the ovaries are in a perfectly sound condition, and if circumstances and possibilities have been explained, an ovary or piece of it may be left.

Of greatest importance and much discussed has been the matter of indication for myomectomies.

When every third or fourth woman died after operation, the indication for such a dangerous undertaking was most carefully considered. Hemorrhages, pressure on diaphragm, intestines, bladder, had to reach a rather high degree before a woman would risk her life with an operation. With the perfection of technic and improvement in results the indications were much extended. It was soon claimed that f. m. u. were in the same class as kystoma ovarii—that is, they should be removed whenever found, whether producing symptoms or not; it was considered wise not to allow them to become troublesome but rather to operate before that stage. It was contended that the presence of a f. m. u. favored and frequently indirectly caused inflammatory affections of the uterine adnexa. Special stress was laid on the observation that occasionally a f. m. u. was not a f. m. but a fibro sarcoma; that a sarcomatous degeneration of the f. m. may take place; that sarcoma or carcinoma may co-exist with the f. m. u.

But these extravagant views of a few possessed of furor operativus were never shared by the medical profession; these views are not sustained by the evidence of every day practice. The sane opinion is that f. m. u. themselves are harmless occurrences; they frequently exist without any symptoms whatever; they produce occasionally discomfort; they interfere occasionally with the well-being of the bearer; they menace life only in extremely rare cases, if ever. To relieve the symptoms constitutes a cure. Conservative physicians have always considered operation for f. m. u., with its risks and sequelæ, as rather out of proportion to the morbid condition; they have looked for some non-surgical remedy, for milder treatment.

Years ago, the continued use of some form of ergot was advised and good results were reported. Electricity was much used in the 80's of the last century, especially since Apostoli in Paris put this treatment on a scientific basis; today electric treatment of f. m. u. is almost forgotten.

In the last four or five years Roentgen rays have been more and more used. At first X-rays were applied in an irregular way, until Dr. Albers-Schoenberg, Hamburg, worked out an effective method; the greatest progress was made, however, in the Freiburg Frauenklinik under Professor Kroenig by Drs. Gauss and Lembke. These gentlemen made many biologic researches upon plants and animals; aided by expert engineers, they created what is called the "Freiburg method," that consists in administering large doses of hard rays with perfect protection of the skin.

When I read many reports of X-ray therapy in Gynecology, I became so much interested in this procedure that in the fall of '13 I made a trip to Germany for the purpose to study actinotherapy in gynecologic practice, to familiarize myself with the technic, to study the scope of application, and to learn of results.

In a paper read before the San Francisco County Medical Society, spring 1914, I reported my experiences at length. I wish once more to emphasize the following—I found in Germany that operations for f. m. u. had been almost entirely superseded by X-ray therapy. I was informed that 85 to 95% (varying at different clinics) f. m. u. cases seen were treated successfully by X-rays; that is, the symptoms were relieved, all tumors diminished in size, many became imperceptible. The standpoint is now: operation only when X-rays are not advisable, as against the standpoint at the beginning: X-rays when operation is contra-indicated.

The advantages of rays treatment compared with operation are manifest: no deaths, no hospital, no narcosis, no anxiety, no suffering, no complications (phlebitis, ventral hernia, adhesions). The woman makes an appointment with her physician as with the dentist, though there is no such torture as in the dentist's chair. She goes home to return at another time.

Aside from this there are still a few things to the credit of X-rays; after operation the climacteric molimina are frequently most distressing; women treated with X-rays enter menopause gradually and suffer little; furthermore, when desirable, suppression of menses may be avoided, reduction to normal flow may be obtained under treatment with Roentgen rays.

I shall now recite just three typical cases treated by myself:

1. Mrs. L. Beginning of 40. Never been pregnant. Symptoms: protracted profuse menses with consequent anemia. Status: multiple fib. m. u. of small size.

Result. Cessation of menses; blood normal; uterus quite small; nodules scarcely felt.

2. Mrs. Sch. Beginning of 40. Children. Symptoms: profuse metrorrhagia, anemia. Status, f. m. u. of irregular shape, uterus enlarged to size of big man's fist. Had entered hospital for operation. Consulting surgeon advised against operation on account of severe anemia.

Result of X-ray treatment: cessation of menses; uterus small; some nodules just felt; blood normal; restoration to health.

3. Mrs. S. Beginning of 40. Children. Symptoms: severe menorrhagia. Status: adipositas, anemia; f. m. u. enlarging the organ to three times its normal size; on left side of uterus a mass protrudes, size of small apple.

Result: Cessation of menses; blood normal; uterus of normal size; mass on left side just perceptible.

In finishing this paper I want to say just a few more words. The shaping of our views on fibromyoma uteri and the development of operations for these tumors in the last four decades, form one of the most interesting chapters of modern medical history.

The present status of fibromyoma uteri may be summarized as follows:

1. Many fibromyoma uteri need no treatment whatsoever.

2. The bulk of those fibromyoma uteri that need treatment will fall to the domain of Roentgen-ray therapy.

3. The operations for fibromyoma uteri have reached the highest degree of simplicity, efficiency and safety.